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# Development of the initiative 'The LCA Software Award'

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## 1 Introduction

One of the main activities within the UNNEP/SETAC Life Cycle Initiative to put life cycle thinking into practice is capacity building on life cycle approaches that emerged from the World Summit on Sustainable Development in Johannesburg 2002, as a key condition for effective implementation of the reaffirmed Agenda 21 and Millennium Development Goals commitments.

Life Cycle Thinking (LCT) addresses life-cycle generated impacts through the use of different approaches aiming at minimizing them, such as: Life Cycle Assessment (LCA), Life Cycle Management (LCM), Life Cycle Costing (LCC), and Design for the Environment (DfE).

The proposed project addressed the LCM Aim 6: Educate stakeholders on the uses or the importance of LCA and Life Cycle thinking in promoting sustainable development (Saur et al. 2003).

The most important challenge faced by this project was to raise the awareness of the community of the LCA methodology by: increasing the ability of the community to understand and critically assess the impact of the consumption and production patterns on themselves, in society generally and in relation to particular sets of circumstances; improving the community's ability to deal with the environmental issues and building capacity to use approaches and technologies; creating a climate for participating in or influencing the decision-making process through collective action where appropriate. The main focus of the proposed project, set in motion on 6 March 2006, was the stimulation of multidisciplinary scientific work by providing reliable information and supporting good practices, encouraging the Multipliers (individuals attracted to get involved with LCT) to incorporate knowledge from different matters and to develop projects in their own areas of expertise. UNEP/SETAC Life Cycle Initiative supported this project with a free 12-month LCA software license (Umberto®) and ecoinvent® database access.

## 2 Methods

The objectives of the 'Initiative to Implement a Center of Excellence in Life Cycle Assessment' are twofold: (1) to develop training and educational curriculum, and (2) to create an assessment center to promote sustainable and material flow networks designs and technologies.

The overall approach was defined in aiming:

1. to establish a center to assume, integrate, and to provide institutional support to project at the Federal Center of Technological Education (CEFET-MG);
2. to organize a seminar by inviting distinguished speakers within the LCA context with the aim to awaken the public opinion and to make the community sensible of the relevance of the theme;

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3. to promote the call of Multipliers;
4. to provide LCA trainings with the software Umberto®.

The supply of the Umberto® plus ecoinvent® licenses by the 'LCI Initiative' for 12 months was decisive to the development of the present project. The accessible software made possible a deep capacity building of the coordinator and developed an awareness of the ecoinvent® database completeness.

## 3 Results

The most expected effect can be resumed as 'the potential impact', that is the extent to which there is an effective plan for spreading excellence, exploiting results, and disseminating knowledge.

The hosting institution, CEFET-MG, provided most of the infrastructure necessary for the project to be carried out: hosting of the InDuS website, seminars expenses, computer labs, and printed handouts for the LCA trainings, etc. A total of ten Umberto® educ-licenses were also made accessible by CEFET-MG.

The number of participants at the seminar was 93. The public was diversified, consisting of professors, students, technician, engineers, politician, geographers, managers, administrators, ecologists, etc. During the seminar, the participants made questions and comments to the speakers and had the opportunity to discuss the prerequisites for applying this tool to other practical cases.

A total of 25 Multipliers from different backgrounds were enrolled in the first call. The provided form was an important part of the application. The participants should complete and submit the supplied form, providing information about themselves and describing their motivations and expectations about Life Cycle Thinking. The gathered information was very valuable for moving the training forward.

The trainings were prepared so as to fit Multipliers' needs and expectations expressed in the questionnaires. Each participant received training manuscripts and a supporting CD including the solutions of each module. The coordinator provided site support and assisted the participants with their understanding of the supplied material and questions. Given that only 11 Umberto® licenses were available, some Multipliers had to share the same computer.

During the training, each Multiplier was encouraged to suggest themes that enhance his competences associated with LCA. These themes should pave the path for potential strategic research initiatives for research training and capacity building strategies. Guidance, working tools, and support should be provided by the project's coordinator for these Multipliers.

A total of 20 themes for project were suggested by the Multipliers. A multiplier factor of these projects is expected considering the different areas of knowledge achieved, such as: weaving, logistics, electrical and electronic equipment management (WEEE), IT, jewelry (gems and recycling of bits), furniture, hydrometallurgy, mining, recycling, manufacturing, footwear industry, handicraft, etc.

## 4 Discussion

In particular, in this specific targeted project, the goal was to achieve professionals of many different knowledge areas and involve them in the Life Cycle Thinking, establishing an appropriate center of information, offering consistent information about Life Cycle Assessment, and providing reliable support. The composition of the project in scheduled steps was crucial to ensure the optimal realization of the planned dissemination strategies, i.e., the establishment of the center InDuS, the preparation of the seminar, the enrolment of the Multipliers and the trainings. Indeed, the UNEP/SETAC Life Cycle Initiative support through software licenses (Umberto®) and ecoinvent® database access was vital for the success of this project.

Building on the above configuration, learning environments have been conceived most conducive to quality professional in the field of Life Cycle Assessment in the form of a coherent set of integrations in accordance with their investigative conveniences.

Recently, two projects supported by InDuS have been granted with life cycle tools provided by partners of the UNEP/SETAC Life Cycle Initiative Second Edition of the LCA Award (2008) for Non-OECD Countries.

## 5 Conclusions

The Multipliers enrolled may also be involved in exploitation, demonstration, dissemination or training activities. In particular, the integrated 20 themes for projects provided excellent opportunities for the expansion of the initiative. Furthermore, a multiplier factor of these projects is aspired considering that each Multiplier should be able to identify other relevant study themes considering their knowledge areas and also interfaces with other knowledge areas. Furthermore, new LCA knowledge areas are looking forward to 'show their faces'.

In conclusion, the presented project has positively contributed to the objectives of the UNEP/ SETAC Life Cycle Initiative plan of action promoting sustainable development, Life Cycle Assessment and Life Cycle Thinking.

## 6 Recommendations and perspectives

- Develop specific task forces in each area of knowledge; setting up of a LCA dedicated computer laboratory at the CEFET-MG to make the trainings and research more accessible and affordable for the Multipliers;
- continue to be a focus for Life Cycle Thinking, attracting Multipliers from knowledge areas not previously achieved;
- continue to establish objectives and targets for Life Cycle Thinking among the Multipliers, building on annual improvement survey;
- support Multipliers participation in environmental decision-making in environmental issues;
- reinforce Multipliers participation in the context of environmental impact assessment licensing processes;
- further the training of the enrolled Multipliers, and establish a superior training system;
- provide support for seminars, workshops, etc. in Life Cycle Assessment.

## References

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